

1. (Amended) An image processing system comprising a gamma correction circuit for supplying an output value [(Y)] in response to an input value [(X)] in accordance with a gamma correction function [(F): $Y = F(X)$], [which] said gamma correction circuit

5 [comprises] comprising:

[-] an input section [(INP)] for deriving a table input value [(XT)] and an interpolator input value [(XI)] from the input value [(X)];

10 [-] a table [(TBL)] for supplying a table value [(YT)] in response to the table input value [(XT)];

20 [-] an interpolator [(INT)] for supplying an interpolation value [(YI)] in response to the interpolator input value [(YI)];
and

15 [-] an output section [(OUT)] for combining the table value [(YT)] and the interpolation value [(YI)] so as to obtain the output value [(Y)],

characterized in that the input section [(INP)] of the device comprises:

20 [-] an interval detector [(DET)] which defines] for defining a plurality of input value intervals [(I1, I2)], and for supplying an interval indication [(IND)] which indicates] indicating the interval [(I1, I2)] in which] containing the input value [(X)] lies];

[-] an input value former [(IVC)] for forming the table input value [(XT)] and the interpolator input value [(XI)] as a function of the interval indication [(IND)], the table input value [(XT)] and the interpolator input value [(XI)] being determined, respectively, by a more significant part [(MSP)] of the input value and the complementary less significant part [(LSP)] of variable magnitudes in accordance with the interval indication [(IND)].

2. (Amended) A method of supplying an output value [(Y)] in response to an input value [(X)] in accordance with a given function [(F): $Y = F(X)$], [which] said method [comprises] comprising the [following] steps:

[-] deriving a table input value [(XT)] and an interpolator input value [(XI)] from the input value [(X)];

[-] effecting a look-up operation in a table [(TBL)] on the basis of the table input value [(XT) in order] to obtain a table value [(YT)];

[-] carrying out an interpolation [(INT)] on the [basis of] the interpolator input value [(YI) in order] to obtain an interpolation value [(YI)]; and

[-] combining [(OUT)] the table value [(YT)] and the interpolation value [(YI) in order to] obtain the output value

[(Y)],

characterized in that the method further comprises the [following] steps:

[-] detecting, [(DET)] among a plurality of input value intervals, [(I1, I2)] the interval [(I1, I2) in which] containing the input value [(X) lies];

[-] forming [(IVC)] the table input value [(XT)] and the interpolator input value [(XI)] as a function of the interval [(I1, I2) in which] containing the input value [(X) lies], the table input value [(XT)] and the interpolator input value [(XI)] being determined, respectively, by a more significant part [(MSP)] of the input value and the complementary less significant part [(LSP)] of variable magnitudes in accordance with the interval [(I1, I2) in which] containing the input value [(X) lies].

3. (Amended) A device for supplying an output value [(Y)] in response to an input value [(X)] in accordance with a given function [(F): $Y = F(X)$], [which] said device [comprises] comprising:

[-] an input section [(INP)] for deriving a table input value [(XT)] and an interpolator input value [(XI)] from the input value [(X)];

[-] a table [(TBL)] for supplying a table value [(YT)] in response to the table input value [(XT)];

10 [-] " an interpolator [(INT)] for supplying an interpolation
value [(YI)] in response to the interpolator input value [(YI)];
and

[-] an output section [(OUT)] for combining the table value
[(YT)] and the interpolation value [(YI)] so as to obtain the
15 output value (Y),

characterized in that the input section [(INP)] of the device
comprises:

20 [-] an interval detector [(DET)] which defines] for defining a
plurality of input value intervals [(I1, I2)], and for supplying an
interval indication [(IND)] which indicates] indicating the interval
[(I1, I2) in which] containing the input value [(X)] lies];

25 [-] an input value former [(IVC)] for forming the table input
value [(XT)] and the interpolator input value [(XI)] as a function
of the interval indication [(IND)], the table input value [(XT)]
and the interpolator input value [(XI)] being determined,
respectively, by a more significant part [(MSP)] of the input value
and the complementary less significant part [(LSP)] of variable
magnitudes in accordance with the interval indication [(IND)].